

fructified pistillate flowers make very little growth from October to the following spring, at which time the fruit begins to develop, and by November is mature; being near twelve months from the first appearance of the bud until full anthesis, and twelve months more from anthesis to the perfect fruit.

Notes on *Eriochloa*.

BY GEORGE VASEY.

Kunth founded the genus *Eriochloa* on the specimens of Humboldt's American collection, and in Humboldt's *Nov. gen. et sp.* vol. 1, p. 94, states that the spikelets are one-flowered. But in his *Enumeratio Plantarum*, vol. 1, p. 71, published many years afterwards, describing the genus, he says the spikelets are two-flowered, the upper flower hermaphrodite with two palets; the lower flower neuter with one palet similar to the glumes, or *rarely male* with two palets. The term palets he applies to both envelopes of the flower, now called flowering glume and palet, and in the statement of the lower flower neuter with one palet, he considers one of the outer glumes as a palet, or as belonging to a flower of which the other parts are suppressed. The change in Kunth's description was probably made so as to include the *Panicum molle* of Michaux. An examination of our specimens, as distributed by Mr. Curtiss, show two-flowered spikelets, the usual perfect flower, and a male one with three stamens and a thin, membranaceous two-nerved palet. In Kunth's description this character is referred to in his expression "varius bipaleaceo, masculo."

Mr. Bentham in the *Flora Australiensis* describing *Eriochloa* says, spikelets one flowered. Benth. and Hook., in *Genera Plantarum* say the same. The question arises as to where did Mr. Bentham refer our *Eriochloa mollis*, the *Panicum molle* of Michx. He does not refer to it by name, and has either ignored it or has referred it to *Panicum*. But it does not fit in any of the sections of *Panicum*, and is in all respects a good *Eriochloa* with a second flower, and the character of the genus should be altered to admit it.

The *Eriochloa annulata* No. 3,600* of Curtiss's distribution agrees with the *E. mollis* in having two-flowered spikelets. When I first received it from Mr. Curtiss I was inclined to call it a

variety of *E. mollis*, but Mr. Curtiss said there was a great dissimilarity of appearance, and I, hesitatingly, and improperly referred it to *E. annulata*, specimens of which we have from the W. Indies. The spikelets of our plant are nearly twice as large as those of the W. Indian plant, and have two flowers, while that has one. The general appearance of *E. mollis* and *E. annulata*? of Curtiss's distribution is quite dissimilar, but the flowers can hardly be distinguished, and a specimen from Florida collected by Dr. Garber seems almost to connect the two.

In my published list of grasses I made *E. mollis* a variety of *E. punctata*. This, I suppose, must be changed, for our Texas specimens of *E. punctata* have smaller, one-flowered spikelets, with much more pointed glumes. Therefore *E. mollis* must be restored as a species. As to our *E. annulata*? it must either become a species, or be considered a variety of *E. mollis*. They need to be further observed, perhaps, before this point can be clearly determined. Our species of *Eriochloa* then will need to be divided into two sections, one with one flower, the other with two flowers, and will stand as follows:

§ 1. Spikelets one-flowered.

1. *E. sericea*, Munro; 2. *E. punctata*, Hamilton; 3. *E. grandiflora* (*Helopus grandiflorus*, Trin.)

§ 2. Spikelets two-flowered.

4. *E. mollis*, Kunth; and var. *longifolia* or a new species.

GENERAL NOTES.

Erythræa.—Professor Wittrock, of Stockholm, is publishing *Exsiccatae* of the genus *Erythræa*. He wishes to include the North American species and forms, and no less the European species as naturalized in the United States. I am to ask American botanists, who can do so, to prepare for this work a set of a hundred or two hundred specimens (enough for thirty-five copious sets), of any species within their reach. For compensation, by exchange or otherwise, they should correspond with Dr. N. Wittrock, Royal Academy of Sciences, Stockholm, Sweden.—A. GRAY.

Notes on Economic Botany.—*Ascyrum Cruz-Andree*, L.—The crushed leaves, and especially the half ripe pods of "St. Andrew's Cross," are used quite extensively by the country people for checking bleeding at the nostrils. The parts used are crushed in the hand and the aromatic emanations inhaled, which seem sufficiently astringent to contract the capillaries and check the flow of blood.

Cotton Seed.—Before the manufacture of cotton-seed oil became so great an industry in the Southern States, the seeds of the cotton plant were largely a waste product. Cattle were fed on the fresh seeds, to some extent, and sus-